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Patent Number(s): CN102522502-A

Title: Silicon carbide substrate based terahertz gallium nitride Gunn diode, has nucleation layer and ohmic contact layer arranged on upper part of silicon carbide substrate, and annular electrode arranged on vertical device structure

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Abstract: NOVELTY - The diode has a nucleation layer and an ohmic contact layer arranged on an upper part of a silicon carbide substrate. A bottom portion of the silicon carbide substrate is provided with a metal through-hole (1). An annular electrode (5) is arranged on a vertical device structure. Thickness of the nucleation layer is 30-50 mm. Thickness of a cathode ohm contacting layer is 0.5-1.5 mm.

USE - Silicon carbide substrate based terahertz gallium nitride Gunn diode.

ADVANTAGE - The diode has high working frequency, eliminates piezoelectric polarization effect, and reduces interface dislocation of a silicon carbide substrate.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for manufacturing a terahertz gallium nitride Gunn diode.

DESCRIPTION OF DRAWING(S) - The drawing shows a cross sectional view of a silicon carbide substrate based terahertz gallium nitride Gunn diode.'(Drawing includes non-English language text)'

Metal through-hole (1)

Annular electrode (5)

Derwent Class Code(s): L03 (Electro-(in)organic, chemical features of electrical devices); U11 (Semiconductor Materials and Processes); U12 (Discrete Devices, e.g. LEDs, photovoltaic cells)

Derwent Manual Code(s): L04-A01B; L04-A02A1A; L04-C11A; L04-C11C; L04-C13B; L04-E02; U11-C01J3A; U11-C01J4A; U11-C05E1; U11-C18B1; U12-B02A; U12-E01A1; U12-E01A3; U12-E02

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